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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,991	10/17/2001	Bassam M. Hashem	71493-953/pw	4493

7590
SMART & BIGGAR
P.O. Box 2999, Station D
900-55 Metcalfe Street
Ottawa, ON K1P 5Y6
CANADA

10/31/2007

EXAMINER

HUYNH, NAM TRUNG

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/977,991

Applicant(s)

HASHEM ET AL.

Examiner

Nam Huynh

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed on 8/8/2007. Of the previously presented claims 1-30, claims 16-30 have been cancelled.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 9 is rejected under 35 U.S.C. 101 because the claim recites "An article of manufacture comprising a computer-readable storage medium, the computer-readable storage medium comprising instructions for:". However, this recitation fails to provide any structural and functional interrelationships between the program and other claimed elements of the computer, which would permit the functionality of the program to be realized and thus are non-statutory. The Examiner suggests alternatively amending the claim to recite "An article of manufacture comprising a computer-readable storage medium **encoded with computer executable instructions for:**" thereby claiming a statutory computer element containing the program.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramos et al. (US 7,072,663) (hereinafter Ramos) in view of Balachandran et al. (US 6,996,083) (hereinafter Balachandran), and further in view of Kogiantis et al. (hereinafter Kogiantis).

Regarding claims 1, 8, and 9, Ramos discloses radio resource management (title). In the scope of the invention, Common Radio Resource Management (CRRM) (base station controller) conducts a cell prioritization algorithm to choose or assign the optimum target cell for connection in call setup, idle mode and in handovers/cell reselections (method for selecting at least one base station for communicating with a terminal) (column 4, lines 21-24). The prioritization algorithm orders the cells included in the candidate target cell based upon parameters such as total load which includes information on the uplink, downlink, or both (storing a base station candidate cell list for the uplink/downlink) (column 4, lines 48-52; column 5, lines 51-55). The CRRM directs calls to the most relevant candidate cell according to its QoS requirements that takes into account the traffic load of each cell (column 9, lines 15-29).

Ramos does not explicitly teach or disclose that the prioritization algorithm separates the candidate target cells into uplink and downlink candidate sets. Balachandran discloses a method and system for reducing delay in wireless communications by use of a burst based access assignment system (abstract). Balachandran teaches the dynamic allocation of available resources of in the uplink and downlink direction independently (column 8, lines 15-29). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the prioritization algorithm of Ramos, to follow the teachings of Balachandran and break up downlink and uplink candidate cells, in order to maximize the resource pool available for assignment when new data or speech becomes available for transmission.

The combination of Ramos and Balanchandran does not explicitly teach or disclose determining a predominant uplink or downlink direction of traffic with respect to the terminal and selecting at least one optimum base station in the uplink candidate set or downlink candidate set based on the determination. Kogiantis discloses a method of scheduling a plurality of subscriber equipment based on sets of channel conditions for uplink and downlink channels (abstract). In the scope of the invention, a scheduler receives measured characteristics of uplink and downlink signals for a particular subscriber (page 3, paragraph 25). The scheduler then schedules one or multiple subscribers to convey information over the uplink or downlink channels based on sets of channel conditions (uplink and/or downlink) associated with the subscribers (determining the predominant direction of traffic whether in the uplink or downlink) (pages 3, 4, paragraphs 26, 27). Therefore it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the combination of Ramos and Balanchandran to include determining a predominant uplink or downlink direction of traffic with respect to a terminal, as taught by Kogiantis, in order to allow subscribers to convey information at a certain information rate with a certain throughput when adverse conditions exist.

Regarding claims 2, 4, 5, 10, and 12, Ramos discloses CRRM receives periodic or on demand information from the status of cell resources such as current traffic load of the cell, total load, and cell interference status, which are quality indicators (column 5, lines 15-65). This information is used to provide a revised candidate target cell list where the candidate cells are given a weighting or priority rating (column 7, lines 9-11). Therefore it is further obvious to one of ordinary skill in the art that based upon the received information, cells may be excluded or included in the candidate list.

Regarding claims 3, 11, and 13, Ramos teaches that handover thresholds/margins may be considered in cell capability (column 7, lines 1-5).

Regarding claims 6 and 14, it is inherent that the identity of the base station or cell is transmitted in the cell candidate list in the invention of Ramos.

Regarding claims 7 and 15, the CRRM of Ramos et al. takes into account the current traffic load of the cell (column 5, lines 15-18).

Response to Arguments

5. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam Huynh whose telephone number is 571-272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NTH
10/24/07


GEORGE ENG
SUPERVISORY PATENT EXAMINER